

REMARKS

This is a full and timely response to the Office Action mailed June 19, 2009, submitted concurrently with a two month extension of time to extend the due date for response to November 19, 2009.

No claims have been amended in this response. Thus, claims 1-13 are currently pending in this application.

In view of this response, Applicant believes that all pending claims are in condition for allowance. Reexamination and reconsideration in light of the following remarks is respectfully requested.

Rejections under 35 U.S.C. §103

Claims 1-6 and 9-10 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Jeffries et al. (U.S. Patent No. 5,221,050) in view of Coffee et al. (U.S. Patent No. 6,595,208), and further in view of Garcia et al. (U.S. Patent No. 6,460,781). Further, claims 7-8 and 11-12 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Jeffries et al. (U.S. Patent No. 5,221,050) in view of Coffee et al. (U.S. Patent No. 6,595,208) and Garcia et al. (U.S. Patent No. 6,460,781), and further in view of Hartle et al. (U.S. Patent No. 5,725,161). Lastly, claim 13 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Jeffries et al. (U.S. Patent No. 5,221,050) in view of Coffee et al. (U.S. Patent No. 6,595,208) and Garcia et al. (U.S. Patent No. 6,460,781), and further in view of Gaw et al. (U.S. Patent No. 6,311,903). Applicant respectfully traverses these rejections.

To establish an obviousness rejection under 35 U.S.C. §103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. *Graham v. John Deere*, 383 U.S. 1, 17-18 (1966). In view of these four factors, the analysis supporting a rejection under 35 U.S.C. §103(a) should be made explicit, and should "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. *KSR Int'l. Co. v. Teleflex, Inc.*, 127 S. Ct.

1727, 82 USPQ2d 1385, 1396 (2007). Further, the Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). Finally, even if the prior art may be combined, there must be a reasonable expectation of success, and the reference or references, when combined, must disclose or suggest all of the claim limitations. *See in re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The present invention is directed to an electrostatic device configured and disposed to electrostatically charge and dispense a liquid composition from a supply to a point of dispense. The device includes an actuator, a high voltage generator to provide a high voltage, a power source to activate the actuator and the high voltage generator, a reservoir to contain the supply of the liquid composition, and a dispensing unit. The dispensing unit includes means for supplying the liquid composition from the reservoir to an emitter electrode, and a nozzle to dispense the liquid composition. The supplying means is mechanically connected to the actuator to be driven thereby, and the emitter electrode is electrically connected to the high voltage generator. The nozzle is disposed at the point of dispense. The device further comprises a field electrode connected to the high voltage generator to provide the entire liquid composition with more or less a common electric potential. The reservoir is configured to provide a removable cartridge, said reservoir at least partially being made of deformable material. The device includes a housing carrying the actuator, high voltage generator, and power source, and the housing is formed with a concavity for detachably receiving the reservoir. The housing incorporates an electric motor which drives the actuator for operating the supplying means, and the reservoir is shaped to have a planar configuration of a general segment of circle defined between a chord and a circumference of an approximate circle which is greater than a circumference of a semicircle, and a mouth of the reservoir is disposed at a center of the chord.

As noted in Applicant's previous response, neither Jeffries et al. nor Coffee et al. teaches *said housing incorporating an electric motor which drives said actuator for operating supplying means*.

The Examiner argues that Jeffries et al. discloses that "*said housing incorporates an electric motor (102) which drives said actuator for operating said supply means*" (see page 3 of the Office Action). However, element 102 of Jeffries et al. is not an electric motor. Rather, Jeffries et al. discloses that "*Operation of the device is controlled by a trigger 102 pivoted at 103 and having a cam portion 104 arranged to bear against the adjacent end of the piston/generator 91 so that, as the trigger is squeezed, the piston is displaced to the left as seen in FIG. 7 thereby moving the drive plate 42 and compressing the sachet 30*" (see column 7, lines 14-19, of Jeffries et al.). Thus, element 102 of Jeffries et al. is a *manually operated trigger* and cannot be relied on to teach the electric motor of the claimed invention.

Coffee et al. discloses an embodiment employing a piezoelectric element 64, which could be broadly interpreted to be an electric motor, but Coffee et al. does not disclose that the piezoelectric element 64 drives the *actuator carried by the housing* and mechanically connected to the supply means. Instead, Coffee et al. discloses, in column 9, lines 22-28, that "*[W]hen the switch SW1 is actuated by the user and the voltage supplied by the control circuit reaches the required value, the piezoelectric element 64 flexes or bends so raising the rod 41 to cause the valve head 35a to close the outlet pipe 46 of the reservoir 45 and to move the free end of the rod 41 away from the outlet 33a of the supply pipe 33 to bring the device into the condition shown in FIG. 4.*" Therefore, the piezoelectric element 64 also cannot be relied on to teach the electric motor of the claimed invention.

As such, neither Jeffries et al. nor Coffee et al. teaches or suggests the use of an electric motor, which is separated from the dispensing unit and is mechanically connected to the supply means of the dispensing unit through an actuator.

Jeffries et al. and Coffee et al. also fail to disclose "*wherein the device further comprises a field electrode being connected to the high voltage generator for providing the entire liquid composition with more or less a common electric potential.*" The Examiner continues to argue that Coffee et al. teaches this feature (see page 4 of the Office Action). However, as explained in the previous response which is reiterated herein below for the Examiner convenience, Coffee et al. teaches the use of an additional electrode having a *different* electric potential from the comminution

site and surrounding only the comminution site for providing the different potential to only a portion of the liquid advancing to the comminution site.

In support, Applicant wishes to note the following teachings in Coffee et al.

"A further electrode 60 is positioned so as to be separated from the comminution site 40 by the discharge electrode 50. In the arrangement shown in FIG. 2, the discharge electrode 50 and further electrode 60 are concentrically disposed with respect to the comminution site so that the discharge electrode 50 surrounds the comminution site 40 and is in turn surrounded by the further electrode 60. The further electrode may extend as far as the outlet 4 of the housing.

The further electrode 60 comprises a perforate electrically conductive or semiconductive body which may, effectively, form an inner wall of the second chamber 3b so as to bound a comminution chamber or area 3a (*apparently 3b*) of the device. For example the further electrode 60 may comprise a tube or cage of wire mesh. The wall 7 of the second chamber 3b is formed with one or more apertures 8 to allow air to enter the second chamber 3b. The apertures may be symmetrically disposed around the comminution site so as to facilitate a symmetrical airflow.

The comminution sit 40, discharge electrode 50 and further electrode 60 are connected to respective voltage outputs 22, 23 and 24 of the voltage generator and control circuit 21 which is arranged to provide respective voltages so that *the voltage applied to the further electrode 60 is intermediate the voltages applied to the comminution site 40 and the discharge electrode 50*. In this example, the circuit 21 is arranged to supply a negative voltage to the comminution site 40, a positive voltage to the discharge electrode 50 and earth or ground potential to the further electrode 60. The further electrode 60 has the further advantage of shielding the comminution chamber 3a from external electromagnetic fields so that the electrical fields within the device are not detrimentally affected when, for example, the device is held by a user" (see column 5, line 58, to column 6, line 8, of Coffee et al.) (emphasis added)

"As the user breaths in, air is entrained through the apertures 8 in the second chamber 3b and through the perforate further electrode 60 into the comminution chamber bounded by the further electrode 60. This general movement of air through the perforate electrode 60 hinders or inhibits charged liquid droplets or other charged comminution products from impacting on the electrode 60." (see

column 6, line 66, to column 7, line 7, of Coffee et al.) (emphasis added)

Hence, as apparent from the above recited disclosure, Coffee et al. fails to teach or suggest a field electrode which provides the entire liquid composition with more or less a common electric potential as required by the present claims.

Further still, Jeffries et al. and Coffee et al. fail to disclose “*said reservoir being shaped to have a planar configuration of a general segment of circle defined between a chord and a circumference of an approximate circle which is greater than a circumference of a semicircle, said mouth being disposed at a center of said chord.*” Therefore, the Examiner cites a new reference, Garcia et al., to teach this feature.

Garcia et al. discloses a semi-rigid shell 11 made from a sheet of thermoformable plastic. The flat sheet of plastic is deposited in a concave mold cavity to define a concave dome 13 and a channel 15 defining a recess terminating in a duct 14 (see column 4, lines 36-39, of Garcia et al.). However, Applicant does not believe that the dispenser of Garcia et al. includes a chord. The Examiner relies on the channel 15 to teach the claimed chord (see page 4 of the Office Action), but the channel 15 does not satisfy the geometry of a chord (which is defined as a line segment joining two points on a curve) since the channel 15 only projects out from the edge of concave dome 13 (see Figure 1a of Garcia et al.). Thus, the channel 15 of Garcia et al. does not correspond to the claimed chord. In addition, the concave dome 13 is a *complete circle* to which the duct 14 and channel 15 is connected (see Figures 1a and 3a of Garcia et al.). Thus, the structure of the reservoir of Garcia et al. differs from that of the present invention.

Further, Applicant does not believe that one of ordinary skill in the art would have been motivated to modify Jeffries et al. in view of Garcia et al. as proposed by the Examiner. The Examiner suggests that it would have been obvious to employ the reservoir shape of Garcia et al. in the invention of Jeffries et al. because of its low cost (see page 4 of the Office Action). Specifically, the Examiner cites column 2, lines 25-26, of Garcia et al., which states “*An object of the present invention is to solve that problem of the prior art by defining a low-cost dispenser that guarantees excellent spray quality under all circumstances.*” However, Garcia et al. does not disclose that the low cost of the dispenser is a direct result of *the shape of the reservoir*. Instead, Garcia et al. states

that the low cost of the dispenser is due to its ease of manufacture and assembly on a mass-production basis (see column 1, lines 18-22, of Garcia et al.)

In addition, the sachet 10 of Jeffries et al. is located between upper and lower plates 12 and 14 at least one of which is movable. The sachet 10 is defined by upper and lower generally rectangular layers 16, 18 of flexible sheet liquid impermeable material which are bonded together around their peripheral margins 20. At least one of the plates carries a pad 24 of resiliently deformable material, such as a foam rubber, which contacts the sachet 10 and is dimensioned so as to cover the liquid containing portion of the sachet 10. The pad 24 translates the force F acting on the plate 12 into pressure applied substantially uniformly over the liquid containing-portion of the sachet 12 (see column 3, lines 10-35, of Jeffries et al.). If the dispensing device of Garcia et al. were used in place of the sachet of Jeffries et al., the duct 14, which protrudes upward from the dome 13 inside the outer circumference of the dome (see Figures 2a and 3a of Garcia et al.), would interfere with the uniform application of the force acting on the plate 12. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Therefore, there is no suggestion or motivation for combining Jeffries et al. and Garcia et al. in the manner claimed.

The Examiner further cites Hartle et al. to teach a transformer, a housing provided with a button for releasing an inner cover therefrom with a switch knob for actuating a pump, and an outer cover being provided to fit over the inner cover for concealing the dispensing unit, button, and switch knob (see pages 6-7 of the Office Action). However, Hartle et al. fails to cure the above discussed deficiencies of Jeffries et al., Coffee et al., and Garcia et al.

With regard to dependent claim 13, the Examiner cites Gaw et al. to teach the limitation "*said field electrode is fixed in said housing around said concavity to surround said reservoir placed into said concavity*" (see page 8 of the Office Action). Gaw et al. discloses a casing 10 having a reservoir 38. A piston 6 pressurizes the reservoir 38 and delivers the product to the nozzle 4. An electrode 3 can be disposed adjacent to the nozzle 4 (see column 6, lines 46-60, of Gaw et al.). However, contrary to the Examiner's assertions, the electrode 3 does not surround the reservoir 38 or the casing 10 (see Figure 3A and 7 of Gaw et al.). Gaw et al. only teach the electrode 3 being

disposed adjacent to the nozzle 4 since the electrode 3 is disposed to charge the product (at the nozzle) that has been moved from the reservoir 38 into the orifice 39 (see column 7, lines 32-38, of Gaw et al.). More specifically, Gaw et al. discloses that "*Aperture 65 serves to focus the charge from the electrode 3 through aperture 65 to the product as it moves past aperture 65, prior to the product being dispersed from the nozzle 4, thereby electrostatically charging the product. Aperture 65 is positioned within the insulator 60 at a distance substantially closer to the tip 4a of the nozzle 4, than to the product supply in reservoir 38. In this manner, namely, by restricting the product flow through channel 64, and positioning aperture 65 closer to the nozzle tip 4a, the electrical charge from the electrode 3 that travels back to the product supply in reservoir 38 can be minimized*" (see column 10, lines 35-45, and Figure 7 of Gaw et al.). Therefore, Applicant believes that the electrode 3 of Gaw et al. clearly cannot be relied on to teach the claimed field electrode of dependent claim 13 which is fixed in said housing around said concavity to surround said reservoir placed into said concavity.


Accordingly, Applicant respectfully requests withdrawal of the 35 U.S.C. §103(a) rejections of claim 1 and 13. Claims 2-12 depend directly or indirectly from claim 1 and are allowable at least for this reason. Since none of the other prior art of record discloses or suggests all the features of the claimed invention, Applicant respectfully submits that independent claim 1, and all the claims that depend therefrom, are allowable.

CONCLUSION

For the foregoing reasons, all the claims now pending in the present application are believed to be clearly patentable over the outstanding rejections. Accordingly, favorable reconsideration of the claims in light of the above remarks is courteously solicited. If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

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